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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,104	04/30/2001	Gavan Tredoux	A0840	1617

7590 04/26/2007	EXAMINER
Patent Documentation Center Xerox Corporation Xerox Square 20th Floor 100 Clinton Ave. S. Rochester, NY 14644	BLAIR, DOUGLAS B

ART UNIT	PAPER NUMBER
2142	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 4/12/2007 have been fully considered but they are not

persuasive.

2.   The applicant argues the following:

Specifically, for example, the Examiner has not shown where either Spicer or Harsch discloses receiving a stream of spurious bytes from the external proxy server if there is nothing pending for the internal network device. The Examiner asserts this limitation is disclosed by Harsch between line 54 of Column 4 and line 5 of Column 5. However, this passage appears to be concerned with the use of a "keep-alive" method that holds open a connection with a network device. In the keep-alive method, a client sends intermittent messages to a server to keep the connection between the two up on the server side. The intention is to signal the server so that the server does not close the connection. The keep-alive packet is understood by the server as sent for that purpose and discarded by a standing arrangement ('protocol'). In short, the goal of Harsch appears to be to stop the server itself from dropping the connection and the keep-alive method is an effective method for doing so. On the other hand, Applicants' claims are directed toward preventing an intervening security device from dropping the connection. Applicants do not use a keep-alive method, and instead use a stream of spurious bytes to keep a connection open. The keep-alive method and the use of spurious bytes are not the same. A security device may recognize the keep-alive protocol, detect the keep-alive messages, and close the connection. Applicants' claimed invention sends spurious bytes to prevent an intervening security device, which merely passes bytes on, from concluding that the connection is stale. Spurious bytes are not understood by the security device and are mistaken by it for real data. Further, keep-alive packets are explicitly intermittent packets that are sent versus a steady stream of bytes. Harsch does not appear to mention anything analogous to the stream of bytes as described and claimed by Applicants.

3.   The examiner disagrees for two reasons.

4.   First, the applicant asserts that the Applicants' claims are directed toward preventing an

intervening security device from dropping the connection whereas Harsch is directed towards

preventing a server from dropping the connection. However, this assertion by the applicant is

not supported by the language of claim 9. Claim 9 is directed towards a proxy agent executing

the step of "receiving a stream of spurious bytes from the external proxy server if there is

nothing pending for the internal network device". There is nothing in claim 9 about any

intervening device performing any analysis on the data being sent from the external proxy server

to the proxy agent. Therefore claim 9 is broad enough to cover any keep alive message

5.   Second, the assertion that, "A security device may recognize the keep-alive protocol,

detect the keep-alive messages, and close the connection" is not based on any factual evidence.

Specifically, the keep-alive messages taught by Harsch are unique to the invention of Harsch so

it is unclear how a security device would be programmed to detect the keep-alive packets sent by

Harsch. The keep-alive packets described by Harsch (See col. 13, lines 3-25) read directly on ·

the "spurious bytes" taught by the applicant which are vaguely described as "being returned in a

slow stream" (page 9, lines 23-24) and "trickling down" (page 10, line 1). There is no limiting

definition of a spurious byte in the applicant's specification. It is the Examiner's position that

the keep-alive packets taught by Harsch can be "returned in a slow stream" and "trickled down"

and therefore they read directly on the applicant's specification. If the applicant is implying that

a spurious byte has some special properties that give the "spurious byte" the ability to elude

detection from security devices, such properties are not disclosed or claimed.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 9-10, 13-15, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent Number 7,007,093 to Spicer et al. in view of U.S. Patent Number 7,088,698 to

Harsch et al..

8.   As to claim 9, Spicer teaches a method of accessing an internal network device on a

protected network, the network including a security device, the method comprising: storing data

addressed to the internal network device in an external proxy server (col. 4, lines 4-24, the Proxy

Server 114 stores data addressed to the Network Resources 104.); maintaining a proxy agent on

the protected network, the proxy agent executing the step of: polling the external proxy server for

data addressed to the internal network device, where polling includes: connecting to the external

proxy server to check for pending traffic (col. 4, lines 4-24, the Polling Server 116 polls the

Proxy Server 114); receiving from the external proxy server when the external proxy server has

received data from a client (col. 4, lines 4-24, Polling Server receives client request for Network

Resources 104); forwarding to the internal network device any data on the external proxy server

and addressed to the internal network device; and forwarding to the external proxy server any

data addressed to an external device in communication with the external proxy server (col. 4,

lines 4-24, the Network Resources 104 are disclosed as being printers and file servers and other

similar devices which inherently send responses); however Spicer does not explicitly teach the

external proxy server sending a stream of spurious bytes if there is nothing pending for the

internal network device.

        Harsch teaches a method of receiving a stream of spurious bytes from a proxy server if

there is nothing pending for the network device (col. 4, line 54-col. 5, line 5, the keepalive packet

is considered spurious bytes to maintain the connection).

        It would have been obvious to one of ordinary skill in the Computer Networking art at the

time of the invention to combine the teachings of Spicer regarding communication through a

private network with the teachings of Harsch regarding the transmission of spurious bytes

because spurious bytes keep communication channels open and thus preventing communication

channels from being prematurely closed (Harsch, col. 9, lines 47-59).

9.   As to claim 10, Spicer teaches a method of polling the external server at regular intervals

(col. 4, lines 4-24).

10.   As to claim 13, Harsch teaches a method of multiplexing multiple requests from the

proxy agent to proxy server through the same connection (col. 4, line 54-col. 5, line 5, the

connection is kept open so multiple requests can be made).

11.   As to claim 14, Spicer teaches a method of maintaining by the proxy server maps

between local TCP/IP ports of the proxy server and private IP addresses on the protected

network, the maps being distinguished by an identity of the proxy agent used to access them (col.

4, lines 4-44).

12.   As to claim 15, Spicer teaches a method of publishing by each proxy agent a list of

addresses it can reach to the external proxy server, the external proxy server using this list to

create a respective map between local ports and proxy agents (col. 4, line 55-col. 5, line 15).

13.   As to claim 20, Spicer teaches a method of providing network administrators control over

the system including granting administrators the ability to allow and deny entry into the

protected network on a per session basis (col. 4, line 55-col. 5, line 15).

14.   As to claim 22, Spicer teaches a method of providing a network administrator control

over the system including granting administrators the ability to allow and deny entry into the

protected network on a per session basis (col. 8, lines 39-58).

15.   Claim 11-12, 16, 20-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent Number 7,007,093 to Spicer et al. in view of U.S. Patent Number 7,088,698 to

Harsch et al. in further view of U.S. Patent Number 6,510,464 to Grantges Jr. et al..

16.   As to claim 11, the Spicer- Harsch combination does not explicitly teach the use of two

separate protocols to inside and outside the private network.

        Grantges Jr. teaches a method of communicating by an internal network device with a

proxy using a first network protocol and an external network device communicating with the

proxy using a second protocol (Figure 7).

        It would have been obvious to one of ordinary skill in the Computer Networking art at the

time of the invention to combine the teachings of the Spicer- Harsch combination regarding

communication to devices on a private network with the teachings of Grantges, Jr. regarding the

use of different protocols inside and outside of the private network because some connections

may be required to be secure.

17.   As to claim 12, Grantges Jr. teaches a method wherein data addressed to an internal

network device using a second network protocol is transmitted to the internal device using the

first protocol so that the second protocol is carried to the internal network device inside the first

network protocol (HTTP traffic is encrypted using HTTPS).

18.   As to claim 16, the Spicer- Harsch combination does not explicitly teach ensuring cookie

delivery.

        Grantges, Jr. teaches a proxy server that ensures proper cookie routing (col. 11, line 63-

col. 12, line 10).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of the Spicer- Harsch combination regarding a system for communicating with private network devices with the teachings of Grantges, Jr. regarding the routing of cookies because cookies are commonly communicated during HTTP communication.

19.   As to claim 18 and 19, they are rejected for the same reason as claims 11 and 12.

20.   As to claim 20, Grantges Jr. teaches the use of X.509 certificates (Fig 7).

21.   As to claim 21, the Spicer- Harsch combination teaches the method of claim 9 however the Spicer- Harsch combination does not explicitly teach rewriting cookies with unique identifiers.

Grantges Jr. teaches rewriting cookies with unique identifiers to prevent inadvertent transmission of private information to an incorrect recipient on the protected network (col. 9, line 54-col. 10, line 5).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of the Spicer- Harsch combination regarding a system for communicating with private network devices with the teachings of Grantges, Jr. regarding the routing of cookies because cookies are commonly communicated during HTTP communication.

22.   As to claim 23, the Spicer- Harsch combination teaches the method of claim 9 however the Spicer- Harsch combination does not explicitly teach granting a key for access.

Grantges teaches a method wherein access is conferred by granting a key with a predetermined life span (col. 7, lines 63-col. 8, line 14).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of the Spicer- Harsch combination regarding a system for communicating with private network devices with the teachings of Grantges, Jr. regarding granting a key because keys are commonly used to identify requesters.

Conclusion

23.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas B. Blair whose telephone number is (571) 272-3893. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Douglas Blair

ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER